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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/26/2003

Michio Ono

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BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, IL 60610

EXAMINER

MOORE, MARGARET G

ART UNIT

PAPER NUMBER

1712

MAIL DATE

DELIVERY MODE

05/24/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/672,190	Applicant(s) ONO, MICHIO	
	Examiner Margaret G. Moore	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2, 3, 5 to 41 is/are pending in the application.
- 4a) Of the above claim(s) 2, 3, 5 to 11 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 to 14, 16, 17, 23 to 25, 27, 28 is/are allowed.
- 6) ☒ Claim(s) 15, 18, 22, 26, 29 to 41 is/are rejected.
- 7) ☒ Claim(s) 19 to 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Applicants have deleted generic claim 1 and the elected species under consideration, claim 4. While non-elected claims 2, 3 and 5 to 11 remain, these claims depend upon a deleted claim and as such are (still) withdrawn from consideration. Since applicants are "focusing on claims 12, 16 and 17" the Examiner assumes that claims 2, 3 and 5 to 11 are no longer being actively prosecuted in this application.

Claims 19 to 22 depend upon claim 11, which is withdrawn from consideration. The subject matter in these claims is the same as that in claims 6 to 9 and the Examiner believes that these claims were intended to depend upon claim 12. Clarification is required (see claim objection, below). At this time they will be examined with claim 12.

While applicants' election of Group I was *without* traverse, in view of the fact that claim 12 has been held to be allowable over the prior art (see below), the Examiner will rejoin claims 27 to 41. Claims 27 to 41 require the same hybrid material as in claims 12 to 26 and thus rejoining these claims is not an undue burden on the Examiner. Currently claims 12 to 41 are under consideration, while claims 2, 3 and 5 to 11 are withdrawn from consideration.

2. Applicants' response has overcome the prior art rejections. Applicants have deleted claims 1 and 4. For claim 12, upon reconsideration the Examiner agrees with applicants' remarks that Pauluth et al. fail to teach, or even suggest, the addition of a proton source which imparts proton conductivity into the material. While the Examiner had previously referred to column 7 as teaching conductive salts, none of the salts taught are proton sources and there is nothing to indicate that any salt in an amount to impart proton conductivity. In addition, it does not even appear from the teachings in Pauluth et al. that these salts are added to what would be considered an organic-inorganic hybrid material as claimed. That is, these salts are added to liquid crystal dielectrics. As defined on column 6, such material contain only .01 to 1% of the organo-silicon containing a mesogenic group. See also Formulations A and B on column 24. With the silane present in such a minor amount and no other siloxane forming compound present, it is not clear that the silane will in fact undergo condensation to form a crosslinked material. In view of these two points, the Examiner cannot conclude that Pauluth et al. teach the

material of claims 12 and 16. This too overcomes any obviousness rejection of claim 17 over Pauluth et al.

3. Claims 19 to 22 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. These claims depend upon claim 11, which is withdrawn from consideration. As such these claims cannot be considered further limiting.

4. Claims 15, 18, 22, 26 and 29 to 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 15, 18, 22 and 26, the formulae (1-4) and (1-5) are indefinite. The formulae represent *compounds*. As such, it is improper to show incomplete bonds attached to E¹⁵ and Y¹⁴. This is true particularly in view of the definitions of E¹⁵ and Y¹⁴ which do not allow for these numbers of open valences. It is also unclear if these compounds have been polymerized with the material or not.

For claims 29 to 41, reference to "the organic-inorganic hybrid proton conductive material of claim 27" lacks antecedent basis since these claims are drawn to a fuel cell.

Also, note the rejection of formulae (1-4) and (1-5) *supra*, as it applies.

5. Claims 12 to 14, 16, 17, 23 to 25, 27 and 28 are allowed.

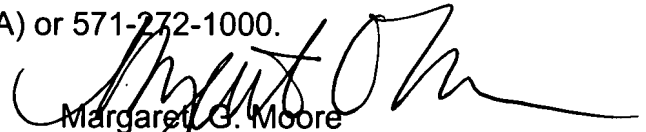
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-272-1090. The examiner can normally be reached on Monday to Wednesday and Friday, 10am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone

Art Unit: 1712

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Margaret G. Moore
Primary Examiner
Art Unit 1712

mgm
5/22/07